SH5.0/6.0/8.0/10RT New

Residential Hybrid Three Phase Inverter

SUNGROW
Clean power for all

FLEXIBLE APPLICATION

- 150~600V wide battery voltage range
- Supports parallel connection with full communication between inverters
- Provides 100% unbalance loads in backup mode

ENERGY INDEPENDENCE

- Seamless transition to backup mode for protection against power outages
- Fast charging/discharging to meet the demand of higher consumption and energy trading

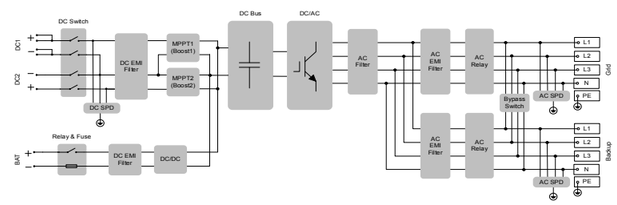
SMART MANAGEMENT

- High self-consumption with optimised built-in EMS
- Free online monitoring to enhance energy management for end user, installer and retailer
- Remote firmware update and customisable settings

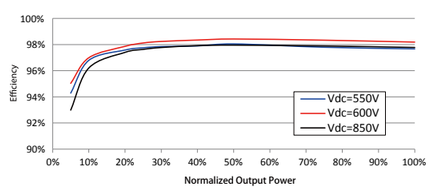
EASY INSTALLATION

- Unique push-in connectors for time-saving installation
- Touch free commissioning with smartphone
- Lightweight and compact

CIRCUIT DIAGRAM



EFFICIENCY CURVE (SH10RT)



Type designation	SH5.0RT	SH6.0RT	SH8.0RT	SH10RT
PV Input				
Max. PV input power	6600 W	8000 W	10600 W	13300 W
Max. PV input voltage	1100 V	1100 V	1100 V	1100 V
Startup voltage	180	250	250	250
Nominal input voltage	600 V	600 V	600 V	600 V
MPP voltage range	150 V-1000 V	200V-1000 V	200V-1000 V	200 V-1000 V
MPP voltage range for nominal power	210 V-850 V	250 V-850 V	330 V-850 V	280 V-850 V
No. of MPPTs			2	
Max. number of PV strings per MPPT	1 / 1	1 / 1	1 / 1	1 / 2
Max. PV input current	25 A (12.5 A / 12.5 A)	25 A (12.5 A / 12.5 A)	25A (12.5 A / 12.5 A)	37.5 A (12.5 A / 25 A)
Max. current for input connector			16 A	
Short-circuit current of PV input	32 A (16 A / 16 A)	32 A (16 A / 16 A)	32A (16 A / 16 A)	48 A (16 A / 32 A)
AC Input and Output				
Max. AC apparent power	5000 VA	6000 VA	8000 VA	10000 VA
Nominal AC ouput current	7.3 A	8.7 A	11.6 A	14.5 A
Max. AC output current	8.5 A	10 A	13.5 A	17 A
Nominal AC voltage	3 / N / PE, 220 / 380 V; 230 / 400 V; 240 / 415 V			
AC voltage range	270-480 Vac (this may vary with grid standards)			
Nominal grid frequency	50 Hz / 60 Hz, 45-55 Hz			
Grid frequency range	55-65 Hz (this may vary with grid standards)			
THD	<3 % (of nominal power)			
DC current injection	<0.5 % (of nominal current)			
Power factor	>0.99 at default value at nominal power (adj. 0.8 overexcited / leading o 0.8 underexcited / lagging)			
Protection				
LVRT	Yes			
Anti-islanding protection	Yes			
AC short circuit protection	Yes			
Leakage current protection	Yes			
DC switch (solar)	Yes			
DC fuse (battery)	Yes			
Overvoltage Protection	DC Type II / AC Type II			
Battery Data				
Battery type	Li-ion battery			
Battery voltage	150 V–600 V			
Max charge / discharge current	25 A / 25 A			
Max charge / discharge power	6600 W	8000 W	10600 W	10600 W
System Data				
Max. efficiency / European efficiency	98.0% / 97.2%	98.2% / 97.5%	98.4% / 97.9%	98.4% / 97.9%
Max. charge / discharge efficiency	98.5%			
Isolation method (solar) / (battery)	Transformerless / Transformerless			
Ingress protection rating	IP65			
Operating ambient temperature range	-25 ℃– 60 ℃ (>45 ℃ derating)			
Allowable relative humidity range	0%~100%			
Cooling method	Natural convection			
Max. operating altitude	4000m (>2000m derating)			
Display	LED, Graphic LCD (Optional)			
Communication	RS485, Wi-Fi, Ethernet, 1 * Digital Output, 4 * Digital Input			
DC connection type	MC4 (PV) / Sunclix (Battery)			
AC connection type	Plug and play connector			
Compliance	IEC / EN 62109-1, IEC / EN 62109-2,IEC / EN 61000-3-11, IEC / EN 61000-3-12, EN 62477-1, VDE0126-1-1 / 4105, CEI 0-21, AS 4777.2, EN50438			
Mechanical Data				
Dimensions (W * H * D)	480 * 540 * 170 mm			
Mounting method	Wall-mounting bracket			
Weight	25 kg			
Backup Data				
Nominal voltage	3 / N / PE,220 / 380V;230 / 400V;240 / 415V			
Frequency range	50 Hz / 60 Hz (±0.2 %)			
Total hamonic factor output voltage	2 % (full resistive load)			
Switch time to emergency mode	<20ms			
Nominal output power	5000 W / 5000 VA	6000 W / 6000 VA	8000 W / 8000 VA	10000 W / 10000 VA
Peak output power	6000 W / 6000 VA, 5 min 10000 W / 10000 VA, 10 s	7200 W / 7200 VA, 5 min 10000 W / 10000 VA, 10 s	12000 W / 12000 VA, 5 min	12000 W / 12000 VA, 5 min
Parallel operation	Yes			